

Be



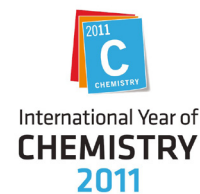
4

BERYLLIUM

Element Symbol: **Be**

Atomic Number: **4**

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BRETT LITTLETON

BERYLLIUM

Element symbol: **Be**

Atomic number: **4**



Moreton Bay College
Breadth of mind. Depth of heart.

Beryllium was discovered by Louis-Nicholas Vauquelin in 1798. Vauquelin found beryllia (BeO) in emeralds and in the mineral beryl (beryllium aluminum cyclosilicate). Beryllium was first isolated by Friederich Wöhler in 1828. Wöhler reacted potassium with beryllium chloride in a platinum crucible yielding potassium chloride and beryllium. Although the element used to be called Glucinium or glucinum, the name beryllium comes from the Greek word beryllos meaning beryl.

Beryllium is found in the gemstone called beryl. This group of gemstones includes emeralds and aquamarines.

Beryllium is an alkaline earth metal and is found in the earth's crust but not in its element form as it is so reactive. It is mined in Australia, US, China, Russia and Brazil. Beryllium exists in air as very small dust particles.

Some applications of beryllium include:

- Inclusion in rocket nozzles, space telescopes, and to make windows transparent to x-rays and other types of radiation
- Used as a hardening agent in alloys such as beryllium copper.
- Used in nuclear reactors as a reflector and absorber of neutrons, a shield and a moderator.
- Electric light bulbs, fluorescent tubes
- Beryllium copper is used in golf club heads

Though beryllium tastes sweet, it is toxic. Chronic exposure to beryllium (typically through inhalation) can lead to a life-threatening allergic disease called berylliosis. Beryllium in soil can pass into the plants grown on it, provided it is in a soluble form. Typical levels in plants vary between 1 and 40 ppb, too low to affect animals which eat these plants. In water, chemicals will react with beryllium, causing it to become insoluble. This is a good thing, because the water-insoluble form of beryllium can cause much less harm to organisms than the water-soluble form.

There is a very high level of uncertainty about the occurrence of beryllium in bituminous coals. It is likely present in the organic matter and in clays. In some coals, it appears to be associated with finely divided silicate phases dispersed in the organic matter.

Provided by the element sponsor Morton Bay College

ARTISTS DESCRIPTION

Beryllium oxide is used in ceramic insulators.

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